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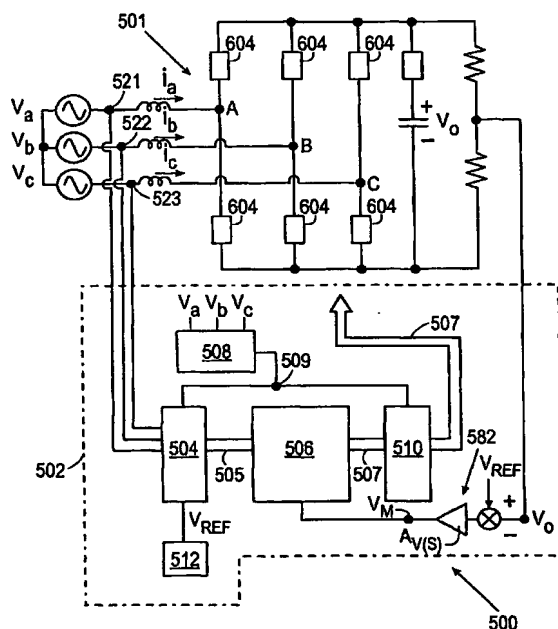
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(54) Title: **UNIVERSAL THREE PHASE CONTROLLERS FOR POWER CONVERTERS**



(57) Abstract: The systems and methods described herein provide for a universal controller capable of controlling multiple types of three phase, two and three level power converters. The universal controller is capable of controlling the power converter in any quadrant of the PQ domain. The universal controller can include a region selection unit, an input selection unit, a reference signal source unit and a control core. The control core can be implemented using one-cycle control, average current mode control, current mode control or sliding mode control and the like. The controller can be configured to control different types of power converters by adjusting the reference signal source. Also provided are multiple modulation methods for controlling the power converter.



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